

PRODUCT FEATURE

Using AAC devices to emulate scanning for computer access with Clicker 5

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Assistive technology has been my passion for my son's whole life (nineteen years). In the summer of 2005, I met Deborah Barrows, Eastern Territory Manager for Crick Software Inc., at the ATA Summer Institute in Rhode Island. She was demonstrating Clicker 5, the award-winning writing support and multimedia software. I immediately saw its potential for creating educational games and activities for assistive technology users. But my dilemma was that I needed it to work with my son's AAC devices.

An AAC device can be either a Prentke Romich Company's Vanguard or Vantage or DynaVox Technologies DV4 series of products that can be used for computer access. Unplugging the switch used for scanning from the AAC device to use as the switch for on-screen scanning was not an option since the individual would not have access to the AAC device for communication. Automatic scanning and using the AAC device to select or stop the scanning was not an option since it involved both the computer software and the AAC device being used in scanning mode. Timing of the scans was an issue. Using the AAC device to act as two switches (one to move or scan through the buttons or cells and one to make the selection) was also not an option since it would require multiple hits to select one button or cell resulting in prolonged time to make each selection and lead to user fatigue. Unfortunately, Clicker 5 did not appear to have keyboard short-

cuts that could be used to navigate in the program.

While at the 2006 Closing The Gap Conference, I started thinking that maybe there was a way to emulate scanning with an AAC device. I had the opportunity to meet and brainstorm with John Crick, Clicker 5's creator and founder of Crick Software. While talking with John, I had a clearer understanding of the built-in two-switch scanning option. I had an idea – if the AAC device could send a series of keyboard commands, scanning could be emulated and, with the selection of a single button on the AAC device, the AAC device user could “scan” to and select a cell in the Clicker 5 grid. Borrowing an AAC device (Prentke Romich Company's Vantage), a USB cable to connect the AAC device to a laptop computer, and using my laptop computer with Clicker 5 software installed, John and I soon had Clicker 5 working with the Vantage (see figure 1). We had used the two-scan concept, but with the AAC device emulating two-switch scanning. Now, students using an AAC device to access the computer could use Clicker 5 and benefit from the powerful features of this exciting program.

So, how can you get it all working together for your students? First, have a consistent scan pattern for the cells in a Clicker grid set. Then create a page for the AAC device programmed to scan to and select the cells. Here are the directions:

Setting Clicker 5 Access Options



Figure 1.

To simulate switch access, you change the access options.

a. Open the Options menu and select User Access.

b. Select Two Switch User Scan from the drop-down list at the top.

c. Make sure that switch settings are - Switch 1 = Select and Switch 2 = Move.

This will allow you to use F7 and F8 to “scan to” or move and select or pick cells.

Highlighting can be edited for the individual user's needs. Highlighting can be invisible since the user is not relying on scanning in Clicker 5 when making his or her selection. However, it may be helpful for the programming to have highlighting on when creating a grid set in order to facilitate checking the scan order of the cells.

Modify Clicker 5 Grid Set – Book Making, using Landscape 12 template

1. Open Clicker 5 and select a template

a. Open Clicker 5.
b. Click Create new Grid Set . . . (Or File/New Grid Set.) – See figure 2.

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This article originally appeared in the February/March 2007 issue of *Closing The Gap*, Vol. 25 No. 6.

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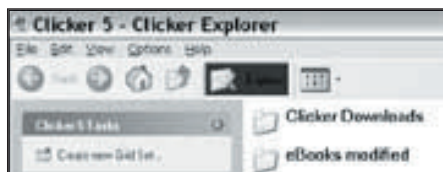


Figure 2.



Figure 3.



Figure 4.

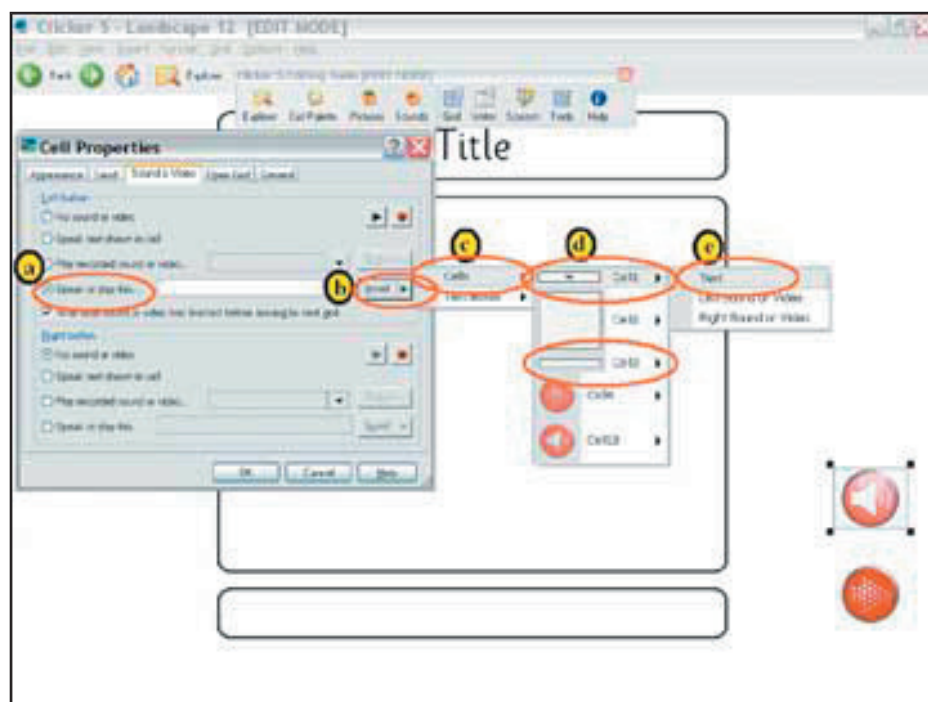


Figure 5.



Figure 6.

First item scanned	Read text box	«SERIAL-MARKER» «F7.
Second item scanned	Next page	«SERIAL-MARKER» «F8. «F7.
Third item scanned	Previous page	«SERIAL-MARKER» «F8. «F8. «F7.

Figure 7.

- c. Double click Book Making.
- d. Double click Landscape 12.
- e. Click Create.
- 2. Go to Edit Mode**
 - a. Select Edit from the Menu bar.
 - b. Select Edit Mode from the drop down menu (see figure 3).

3. Modifying the cover grid.

- a. Click on the Explorer Icon on the Clicker 5 Editing Tools toolbar.
- b. Scroll down to the Master Grids section.

c. Double click cover. The cover master grid opens.

i. Select the title and the other two cells on the grid by holding down the Ctrl key and clicking on the cells.

ii. With the pointer over one of the highlighted cells, right-click and select Properties from the menu. The Cell Properties dialog opens.

iii. Click on the Send tab. Select Send no text.

iv. Click on the Sound and Video tab.

1. Left Button – select No sound or video.

2. Right Button – select No sound or video.

v. Click on the Open Grid tab. Make sure that Don't move to another grid is selected.

vi. Click OK.

d. Adding a Speaker cell.

i. On the Clicker 5 Editing Tools toolbar, click on the Cell Palette icon

ii. Click on the red tab (or any color you wish).

iii. Drag a speaker cell onto the grid.

iv. Position the speaker cell above the next page arrow.

v. Close the Cell Palette.

e. Modifying Cell Properties

i. Right-click on the speaker cell and select Properties from the menu. The Cell Properties dialog displays.

ii. Click on the Send tab. Select Send no text.

iii. Click on the Sound and Video tab.

1. Left Button

a. Select Speak or play this...

b. Click Insert on the cascading menu.

c. Click cells on the cascading menu.

d. Select the cell for the title.

e. Click Text.

f. Repeat steps b – e to include the byline text. In step d, select the cell for the byline.

2. Right Button – Select No sound or video.

iv. Click on the Open Grid tab. Make sure that Don't move to another grid is selected.

f. Arrange Cell Scan Order.

i. On the Menu bar click on Grid and then on Cell Groups.

1. Remove unneeded items.

a. Click on Clicker Writer Tools and then Remove.

b. Click on Clicker Grid Tools and then Remove.

2. Add items.

a. Click on Add and then on Add Cells.

b. Select the speaker icon and click on Add.

c. Use the Move Up or Move Down buttons to arrange the button in the correct scan order (speaker, next page). All Other Cells should be the last item in the list.

d. Click OK.

Use the F8 key to simulate scanning. Press F8 to verify that only the speaker and next page cells are scanned.

4. Modifying the page grid.

a. Select the Explorer icon on the Clicker 5 Editing Tools toolbar.

b. Scroll down to the Master Grids section.

c. Double click page. The page master grid opens.

d. Delete the microphone icon.

i. Right-click the microphone cell.

ii. Click on Delete.

iii. Click on "Yes" in the dialog box to delete the microphone.

5. Modifying Scan Order.

a. On the top Menu bar, click on Grid and then on Cell Groups.

b. Click on Clicker Writer Tools and then Remove.

c. Click on Clicker Grid Tools and then Remove.

d. Select and remove any other unneeded buttons.

e. Use the Move Up or Move Down buttons to arrange the button in the correct scan order (speaker, next page, previous page). All Other Cells should be the last item in the list.

f. Click OK to close the Cell Groups.

6. Test the scan order. Press F8 on the keyboard to cycle through the scan order.

7. Saving the Grid Set to My Templates folder. By saving the Grid Set as a template in the My Templates folder, the Grid Set is available from Clicker Explorer.

a. Open the File from the menu bar.

b. Select Save Grid Set as. The first time you save a Grid Set, you're asked where you want to save it.

c. Create a folder called "My Templates".

d. Save the Grid Set as a template. Select Clicker 5 Template from the pull down menu at the bottom, next to Save as type.

e. Enter a name for your Grid Set.

f. Click Save.

Create an eBook with the new template.

The new modified template is now ready to be used to create a book. Follow the directions for inserting text and photographs or pictures into the grids. Save the grid set. You should be prompted to save it somewhere else or with a different name.

Programming Prentke Romich Company AAC device (Vanguard, Vantage)

1. Creating a new page.

Go to Toolbox. Select create new page. Name the page and select either copy from an existing page or new page.

2. Select the location of the first key to program.

a. Select Spell Text for Message.

b. Click Insert Tool key.

c. Scroll to select Serial Marker tool.

d. Select CTRL key followed by [key. This will put a backwards facing arrow in the message area. This is the escape command (figure 6).

e. Type F7. (F 7 period)

f. Select OK.

g. Click the Change Label key and type the name of the action (read).

h. Click the Change Icon and select an icon to represent the action.

i. Click the Choose next key to define.

3. Select location of the second key (next page) to program.

a. Select Spell Text for Message.

b. Click Insert Tool key.

c. Scroll to select Serial Marker tool.

d. Select CTRL key followed by [key. This will put a backwards facing arrow in the message area.

e. Type F8. (F 8 period).

f. Select CTRL key followed by [key. This will put a backwards facing arrow in the message area.

g. Type F7.

h. Select OK.

i. Click the Change Label key and type the name of the action (next page).

j. Click the Change Icon and select an icon to represent the action.

k. Click the Choose next key to define.

4. Continue programming keys for each item to be scanned. Add an F8 escape sequence for additional step needed in the scan. (See figure 7)

Programming DynaVox Technologies' Series 4 AAC device

1. Create a new page following DynaVox DV4 instructions.

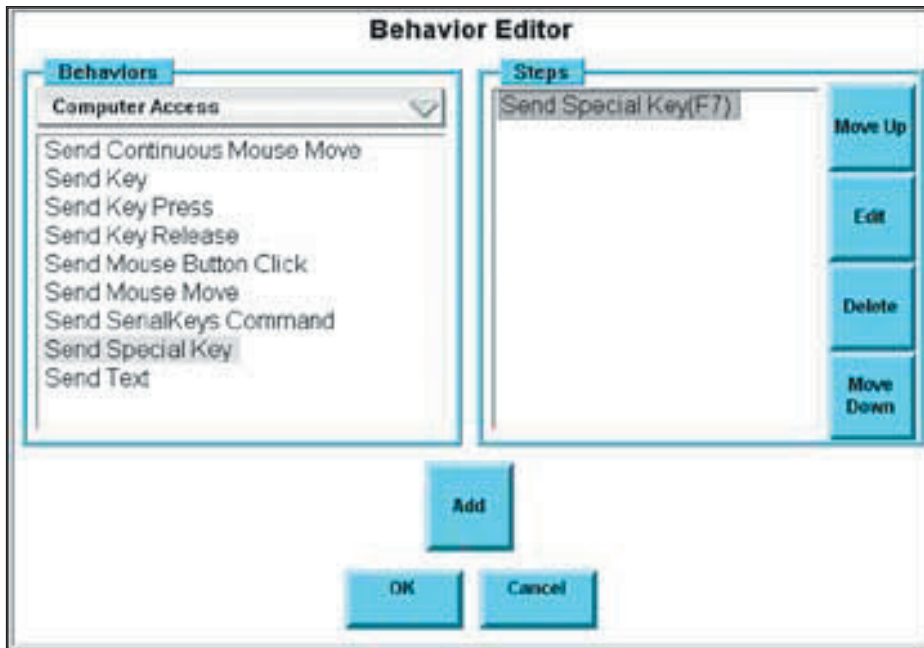


Figure 8.

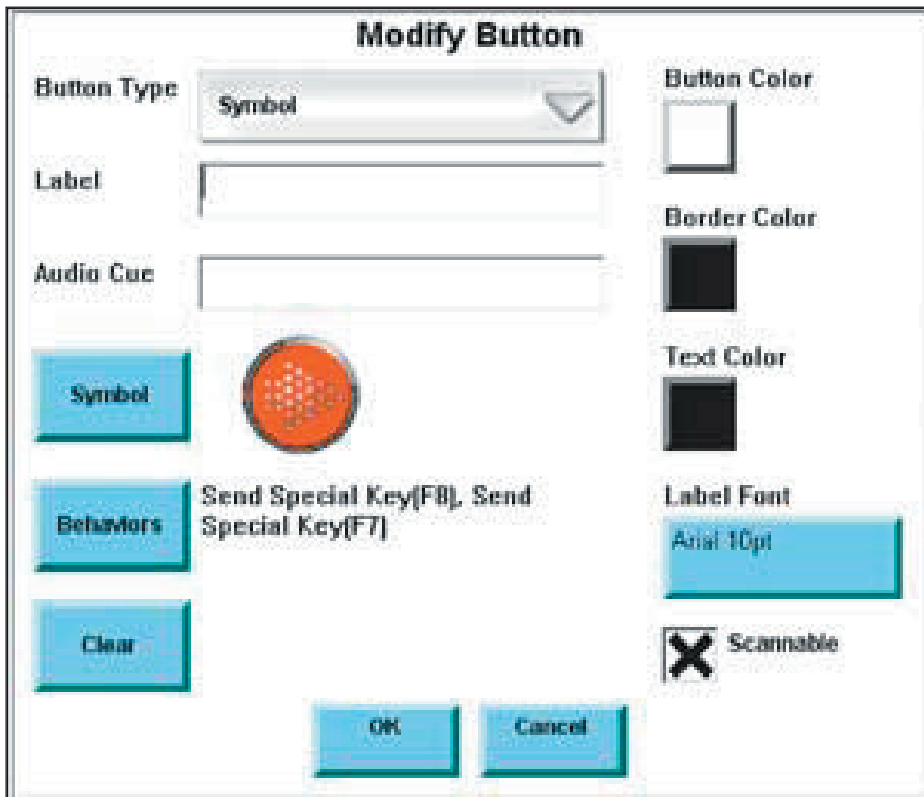


Figure 9.

2. Select the location of the first button to program. This should be the first button that would be scanned-read text box.

- On the left hand screen in behaviors, select Computer Access.
- Select Send Special Keys.
- Click Add.

d. Select IR Special Key dialog box appears. In Key Code drop down menu, select F7.

- In the Command Type, select Press and Release.
- Click OK.

g. Add a symbol to the symbol section of the modify button dialog box.

h. Add a label for the button if desired.

3. Select the second button to modify.

a. On the left hand screen in behaviors, select Computer Access.

b. Select Send Special Keys.

c. Click Add.

d. Select IR Special Key dialog box appears. In Key Code drop down menu, select F8.

e. In the Command Type, select Press and Release.

f. Select Send Special Keys.

g. Click Add.

h. Select IR Special Key dialog box appears. In Key Code drop down menu, select F7.

i. In the Command Type, select Press and Release.

j. Click OK.

k. Add a symbol to the symbol section of the modify button dialog box.

l. Add a label for the button if desired.

Continue to program buttons for each item to scan to and select following the above instructions and adding F8 command. Remember to test your page before using it with the student.

By creating grid sets with consistent scanning order, you should be able to use the same page on the AAC device for all activities with the same cells to be scanned in the same order. AAC device pages can be copied and the symbols and labels changed to reflect different buttons (cells) scanned.

For more information on creating Clicker 5 activities accessible by an AAC device – Prentke Romich Company's Vanguard or Vantage or DynaVox Technologies' DV4 series of products or an IntelliKeys overlay – contact Martha Jane McLellan at <martha.jane@rcn.com>. A range of Clicker 5 grid sets can be download from <www.ATbyMJM.com>. Also, step-by-step instructions are available for you to create a simple Clicker e-Book that is accessible by an AAC device or an IntelliKeys overlay.

Or contact: Deborah Barrows, Eastern Territory Manager, Crick Software Inc., Phone: 207-721-0187 or 866-552-7425; E-mail: <Deborah.Barrows@cricksoft.com>.